

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims:

1-22. (Canceled).

23. (New) A method for transmitting data comprising:

(a) defining a first average rate to transmit a first plurality of packets of said data for presentation at a receiver;

(b) defining a second average rate to transmit a second plurality of packets of said data comprising a plurality of said first plurality of packets, wherein said second plurality of packets is less than said first plurality of packets, wherein said second average rate is greater than said first average rate;

(c) transmitting said second plurality of packets from a transmitter to a receiver over a wireless interconnection.

24. (New) The method of claim 23 wherein said second plurality of packets are provided to said transmitter at the maximum rate.

25. (New) The method of claim 23 wherein said second plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

26. (New) The method of claim 23 wherein said wireless interconnection is IEEE 802.11 compliant.

27. (New) The method of claim 23 wherein all packets of said second plurality of packets contain at least one of audio data and video data.

28. (New) The method of claim 23 wherein said second plurality of packets is transmitted in a duration less than 1 second.

29. (New) The method of claim 23 wherein said transmitting is by an APPLICATION LAYER.

30. (New) The method of claim 23 wherein said transmitting is by a transport layer.

31. (New) The method of claim 23 wherein said transmitting is by a network layer.

32. (New) The method of claim 23 wherein the arrival times of a plurality of said second plurality of packets at the receiver are used to estimate the available bandwidth of said wireless interconnection.

33. (New) The method of claim 23 wherein steps (b) and (c) are performed a plurality of times over a time period.

34. (New) The method of claim 23 wherein said first average rate is equal to the bit rate of the data source.

35. (New) A method of transmitting data comprising:

- (a) defining a transmission rate to transmit a plurality of packets of said data wherein said transmission rate is greater than the average rate for transmitting said data to a receiver;
- (b) transmitting said plurality of packets of said data over a wireless interconnection wherein all packets contain at least one of audio data and video data.

36. (New) The method of claim 35 wherein said plurality of packets are provided to said transmitter at the maximum rate.

37. (New) The method of claim 35 wherein said plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

38. (New) The method of claim 35 wherein said wireless interconnection is IEEE 802.11 compliant.

39. (New) The method of claim 35 wherein said plurality of packets is transmitted in a duration less than 1 second.

40. (New) The method of claim 35 wherein said transmitting is by an APPLICATION LAYER.
41. (New) The method claim 35 wherein said transmitting is by a TRANSPORT LAYER.
42. (New) The method of claim 35 wherein said transmitting is by a NETWORK LAYER.
43. (New) The method of claim 35 wherein the arrival times of a plurality of packets of said plurality of packets at the receiver are utilized to estimate the bandwidth available for transmitting said data.
44. (New) The method of claim 35 wherein said average rate is equal to the bit rate of the source data.
45. (New) The method of claim 43 further comprising performing said transmitting and said estimating a plurality of times over a time period.

46. (New) A method for transmitting data comprising:

- (a) transmitting a plurality of packets of said data from a transmitter at a rate that is greater than the average rate for transmitting said packets to a receiver,
- (b) receiving said plurality of packets at a receiver, wherein said transmitter and said receiver are interconnected by a wireless connection;
- (c) estimating the available bandwidth of said interconnection between said transmitter and said receiver based upon receiving said plurality of packets; and
- (d) modifying said average rate based upon said estimation.

47. (New) The method of claim 46 wherein a plurality of said packets are transmitted from said transmitter to said receiver.

48. (New) The method of claim 46 wherein said estimating said bandwidth of said interconnection is based upon a plurality of said plurality of said packets.

49. (New) The method of claim 46 wherein said estimation is free from being based upon a measure of the loss of said plurality of said packets during transmission.

50. (New) The method of claim 46 wherein said estimating said bandwidth is performed a plurality of times over a period of time.

51. (New) The method of claim 46 wherein said plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

52. (New) The method of claim 46 wherein said estimating utilizes the arrival times of a plurality of said plurality of packets at the receiver.

53. (New) The method of claim 46 wherein said average rate is equal to the bit rate of the source data.

54. (New) A method for transmitting data comprising:

(a) sending a plurality of packets of said data by a transmitter application layer at a transmitter at a rate that is greater than the average rate for transmitting said data to a receiver;

(b) receiving said plurality of packets at a receiver application layer at a receiver, wherein said transmitter and said receiver are interconnected by a wireless connection; and

(c) estimating the available bandwidth of said interconnection between said transmitter and said receiver based upon receiving said plurality of packets at said receiver application layer.

55. (New) The method of claim 54 further comprising said estimating said available bandwidth of said interconnection is based upon a plurality of said plurality of said packets.

56. (New) The method of claim 54 wherein said estimation is not based upon a measure of the loss of any of said plurality of said packets during transmission.

57. (New) The method of claim 54 wherein said estimating said bandwidth is performed a plurality of times over a period of time.

58. (New) The method of claim 54 wherein said plurality of packets is provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

59. (New) The method of claim 54 wherein said estimating utilizes the arrival times of a plurality of said plurality of packets at the receiver.

60. (New) The method of claim 54 wherein said average rate is equal to the bit rate of the source data.

61. (New) A method for transmitting data comprising:
 - (a) transmitting a plurality of packets of said data from a transmitter at a rate;
 - (b) receiving said plurality of packets at a receiver, wherein said transmitter and said receiver are interconnected by a wireless connection;
 - (c) estimating the available bandwidth of said interconnection between said transmitter and said receiver based upon receiving a plurality of said plurality of packets;
 - (d) modifying said rate based upon said estimation;
 - (e) wherein the result of said estimation is different if said plurality of said plurality of packets is received in a different temporal order.
62. (New) The method of claim 61 wherein said estimating utilizes a filter with constant coefficients.
63. (New) The method of claim 61 wherein said estimating is based upon an IIR filter.
64. (New) The method of claim 61 further comprising using a statistical measure of the estimated available bandwidth to said modify said rate.

65. (New) A method for transmitting data comprising:
 - (a) sending a plurality of packets of said data by a MAC layer at a transmitter at a rate that is greater than the average rate for transmitting said data to a receiver;
 - (b) receiving said plurality of packets at a receiver, wherein said transmitter and said receiver are interconnected by a wireless connection; and
 - (c) estimating the available bandwidth of said interconnection between said transmitter and said receiver at said MAC layer.
66. (New) The method of claim 65 wherein said estimating is based upon a data link rate.
67. (New) The method of claim 65 wherein said estimating is based upon packet error rate.
68. (New) The method of claim 65 wherein said estimation is performed by the transmitter.
69. (New) The method of claim 65 further comprising performing said estimating a plurality of times over a period of time.
70. (New) The method of claim 65 wherein said estimating utilizes a filter with constant coefficients.

71. (New) A method for transmitting data comprising:
- (a) defining a first average rate to transmit a first plurality of packets of said data for presentation at a receiver over a wireless interconnection from a transmitter to a receiver;
 - (b) defining a second average rate to transmit a second plurality of packets of said data comprising a plurality of said first plurality of packets, wherein said second plurality of packets is less than said first plurality of packets, wherein said second average rate is greater than said first average rate;
 - (c) transmitting said second plurality of packets from said transmitter to said receiver over said wireless interconnection;
 - (d) modifying said transmitting of said second plurality of packets by at least one of:
 - (i) the data payload of each packet;
 - (ii) the number of said second plurality of packets;
 - (iii) the time interval between transmitting said second plurality of packets and transmitting a subsequent plurality of said first plurality of packets.

72. (New) The method of claim 71 wherein said modifying includes said data payload.

73. (New) The method of claim 71 wherein said modifying includes said number of said second plurality of packets.

74. (New) The method of claim 71 wherein said modifying includes said interval.

75. (New) The method of claim 71 wherein said second plurality of packets are provided to said transmitter at the maximum rate.

76. (New) The method of claim 71 wherein said second plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

77. (New) The method of claim 71 wherein said wireless interconnection is IEEE 802.11 compliant.

78. (New) The method of claim 71 wherein all packets of said second plurality of packets contain at least one of audio data and video data.

79. (New) The method of claim 71 wherein said second plurality of packets is transmitted in a duration less than 1 second.

80. (New) A method for estimating a channel bandwidth comprising:

- (a) receiving a plurality of packets from a wireless connection at a receiver transmitted from a transmitter at a rate;
- (b) estimating the available bandwidth of said wireless connection based upon receiving a plurality of said plurality of packets;
- (c) providing said estimation of available bandwidth to said transmitter based upon a schedule or criterion.

81. (New) The method of claim 80 wherein said criterion includes a time interval.

82. (New) The method of claim 80 wherein said estimating is different if said plurality of said plurality of packets is received in a different temporal order.

83. (New) The method of claim 80 wherein said receiving includes a burst of packets.

84. (New) The method of claim 80 wherein said receiver determines packet losses of said burst of packets.

85. (New) The method of claim 84 wherein said estimating is based upon computing a time difference between the first and last packet of said plurality of packets.

86. (New) The method of claim 80 wherein said estimating is based on the arrival times of a plurality of said plurality of packets at the receiver.

87. (New) The method of claim 80 wherein said estimating utilizes a filter with constant coefficients.

88. (New) The method of claim 80 wherein said criterion includes a number of packets received.

89. (New) The method of claim 80 wherein said criterion includes the estimated value of said available bandwidth.

90. (New) A method for estimating a channel bandwidth comprising:

- (a) transmitting a plurality of packets through a wireless connection from a transmitter to a receiver at a rate;
- (b) estimating the available bandwidth of said wireless connection based upon said plurality of packets;
- (c) adapting said rate based upon said estimating.

91. (New) The method of claim 90 wherein said adapting is based upon information from said receiver.

92. (New) The method of claim 90 wherein said estimating is based on the arrival times of said plurality of packets at the receiver.

93. (New) The method of claim 90 wherein said estimating utilizes a filter with constant coefficients.

94. (New) The method of claim 90 wherein said adapting modifies the size of said packets.

95. (New) The method of claim 90 wherein said adapting modifies the number of packets of said plurality of packets.

96. (New) The method of claim 90 wherein said adapting modifies the time interval between subsequent plurality of said plurality of packets.